



## State-Specific Maps of Selected Health Care Facilities

The section presents a series of maps for the 50 States and the District of Columbia aimed at understanding the context of nursing home services being provided in each State. Geographic information system (GIS) analyses were used to synthesize and analyze the distribution of nursing home and hospital facilities, together with county and State geopolitical boundaries and the distribution of the State's resident population.

These maps offer a useful synthesis of high-level data for the States; however, further analyses that draw in additional layers of information and graphically depict the spatial relationship of these data from a geographic perspective would be useful in considering disaster preparedness planning and response. The six States presented in the case study series section show how such additional analyses can assist local and regional planners in assessing issues of concordance relevant to preparedness and response in disaster situations.

### STATE MAPS

The graphical layout for the 51 maps (50 States and the District of Columbia) is relatively straightforward. Each page in this section includes

- a map representing the size and location of hospitals and nursing homes relative to the urban population; and
- a legend showing what each symbol on the map represents.

The titles and legends are consistent across maps so that the reader can compare resource availability and configuration in different States.

Each State is represented on a single page with surrounding States noted using U.S. Postal Service abbreviations. The legend along the right side of the page visually depicts where the State is located relative to the other 49 States and the District of Columbia. A key to the shaded urban-rural population settlement patterns, which range from

dark blue to yellow, indicates the five categories of U.S. Census data displayed. County and State geopolitical boundaries are indicated with black border lines. Red crosses indicate the aggregate number of American Hospital Association (AHA)-reported hospital beds by county, with symbols of graduating size indicating four hospital size categories, ranging from "Fewer than 100" to "500 or More." The aggregate number of skilled nursing facility/nursing facility (SNF/NF) beds reported by the Centers for Medicare and Medicaid Services (CMS) is represented by purple circles of graduating size, ranging from "Fewer than 50" to "200 or More." Major road networks are displayed using gray lines. Oceans and major lakes are depicted with light blue shading.

Additional information useful in interpreting the maps and a complete list of source data and the software used to produce these maps are provided in Appendix A. Tables of the data represented in each of the maps are included in Appendix B. These tables provide the following data for the facilities included in the maps: total beds (i.e., size), number of facilities by type for each county, full-time equivalent (FTE) registered nurses (i.e., staffing), and limited utilization information for hospitals.

## MAP APPLICATION

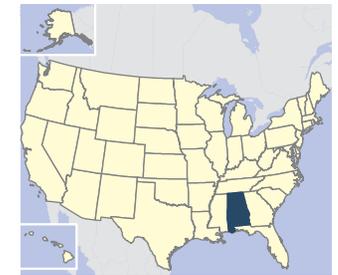
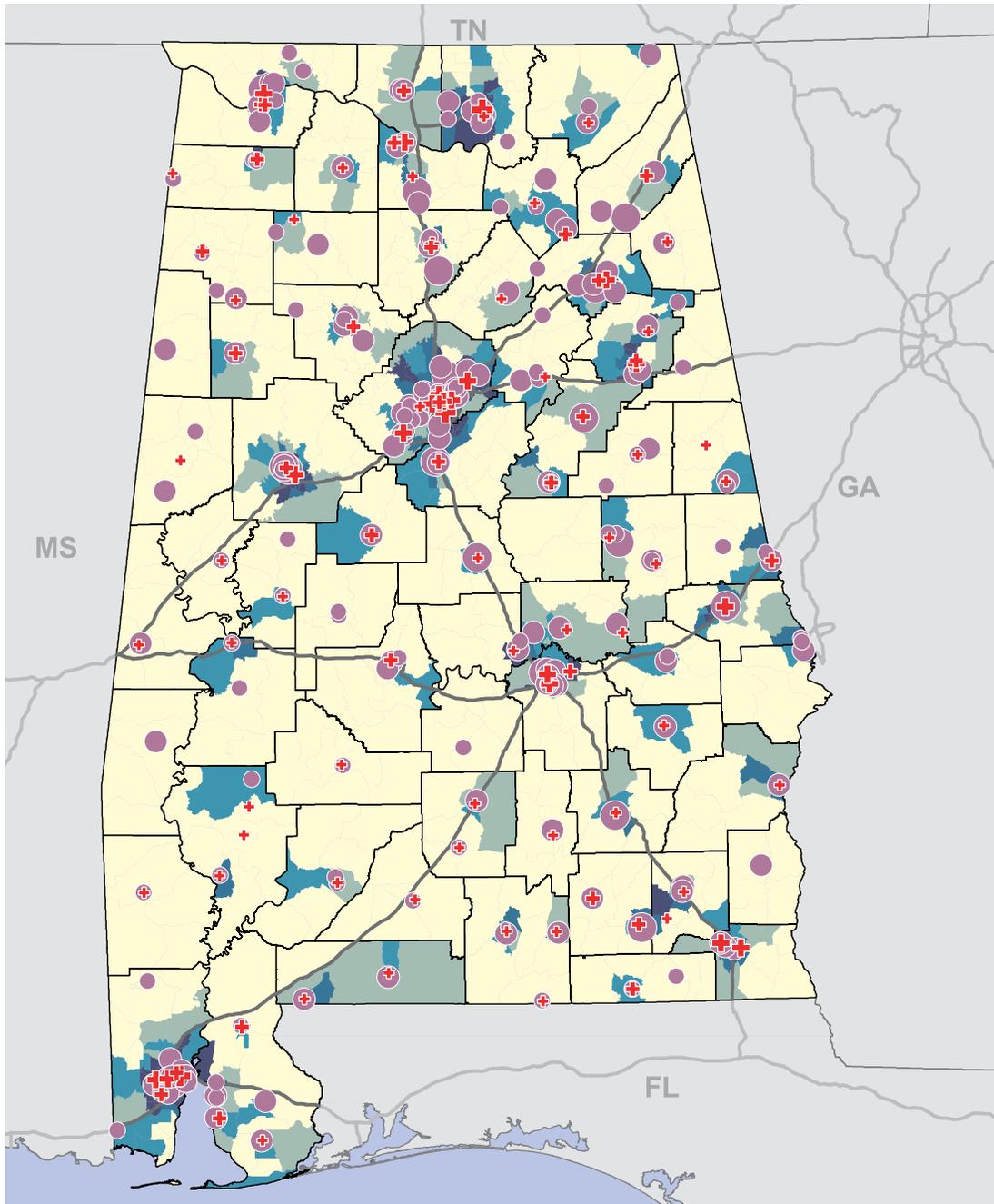
Static baseline maps can be used as a tool in disaster planning and response. From a strategic planning perspective, these maps can be used to stimulate discussion and guide more in-depth analysis. Similar analyses could be performed for those States not included in our more detailed case study series; these could include an examination of the locations of specific hospitals and nursing homes that could augment health care delivery in areas most vulnerable and in need of disaster response. As a response tool, these static maps can be used to support activities related to patient transport and possible evacuation/relocation decisions.

However, the maps are not intended to supersede predetermined local and regional patient transport arrangements or agreements. Actual disaster response is coordinated in all areas by the local Incident Command Center and responsible State and Federal government agencies.

These static maps and baseline data were used in support of relief efforts during the fall of 2005 following the devastating Hurricane Katrina disaster. Maps of the affected States were packaged and sent to the U.S. Department of Health and Human Services (DHHS) Command Center in the Office of the Secretary, Michael Leavitt. The base maps, with hospitals and nursing facilities indicated, were enlarged and used as a starting point in planning relief efforts. RTI staff supported Agency for Healthcare Research and Quality (AHRQ) and DHHS staff as part of the disaster response by updating these maps as they monitored and received reports on changing facility status, creating revised maps for the Secretary's daily reports. Additional layers of facility data were added in real time as part of this effort to include temporary shelters (i.e., mobile Federal and Red Cross units), community health centers, and community mental health centers. In this way, the base maps from this *Atlas* for Alabama, Arkansas, Louisiana, Mississippi, and Texas were used as active tools in supporting disaster relief efforts.

## LIMITATIONS

Several limitations for the maps included in this series should be noted. First, these static maps represent the most recent data available at the time of production (January through July 2005; see **Appendix A** for details). There are lags in the data, requiring that the static maps be periodically updated. The AHA data provide detailed data reported by hospitals responding to the AHA's annual survey. Not all hospitals respond to this survey; thus, data for nonreporting facilities are not included in the maps and tables. CMS reports data on SNFs/NFs with which it has completed reimbursement transactions; thus, these data are believed to be comprehensive but will not include an area's newly added facilities.



**Percentage of Population Living in an Urban Area**

- 90.0% or More
- 70.0% to 89.9%
- 40.0% to 69.9%
- 10.0% to 39.9%
- Less than 9.9%

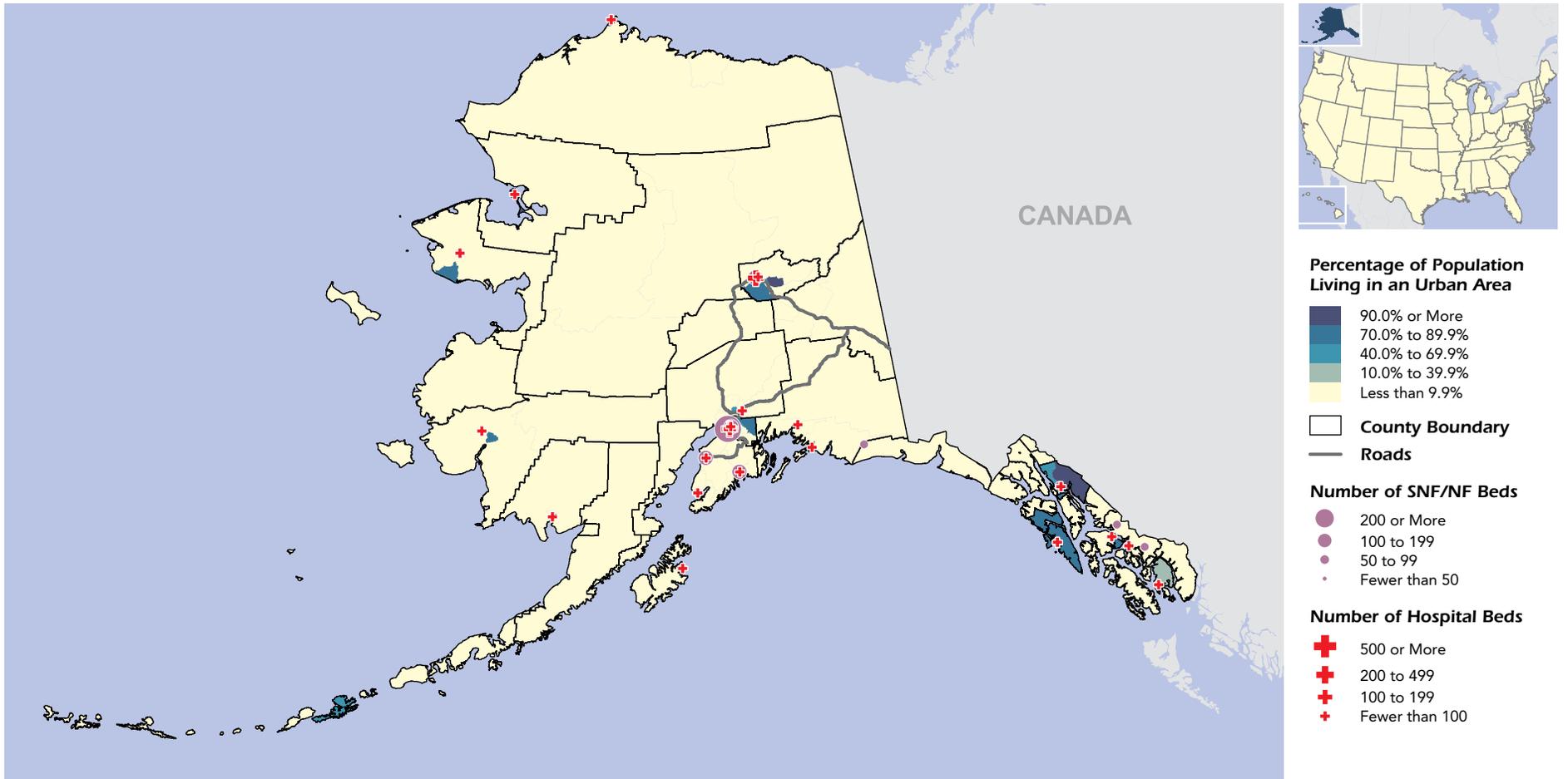
- County Boundary
- Roads

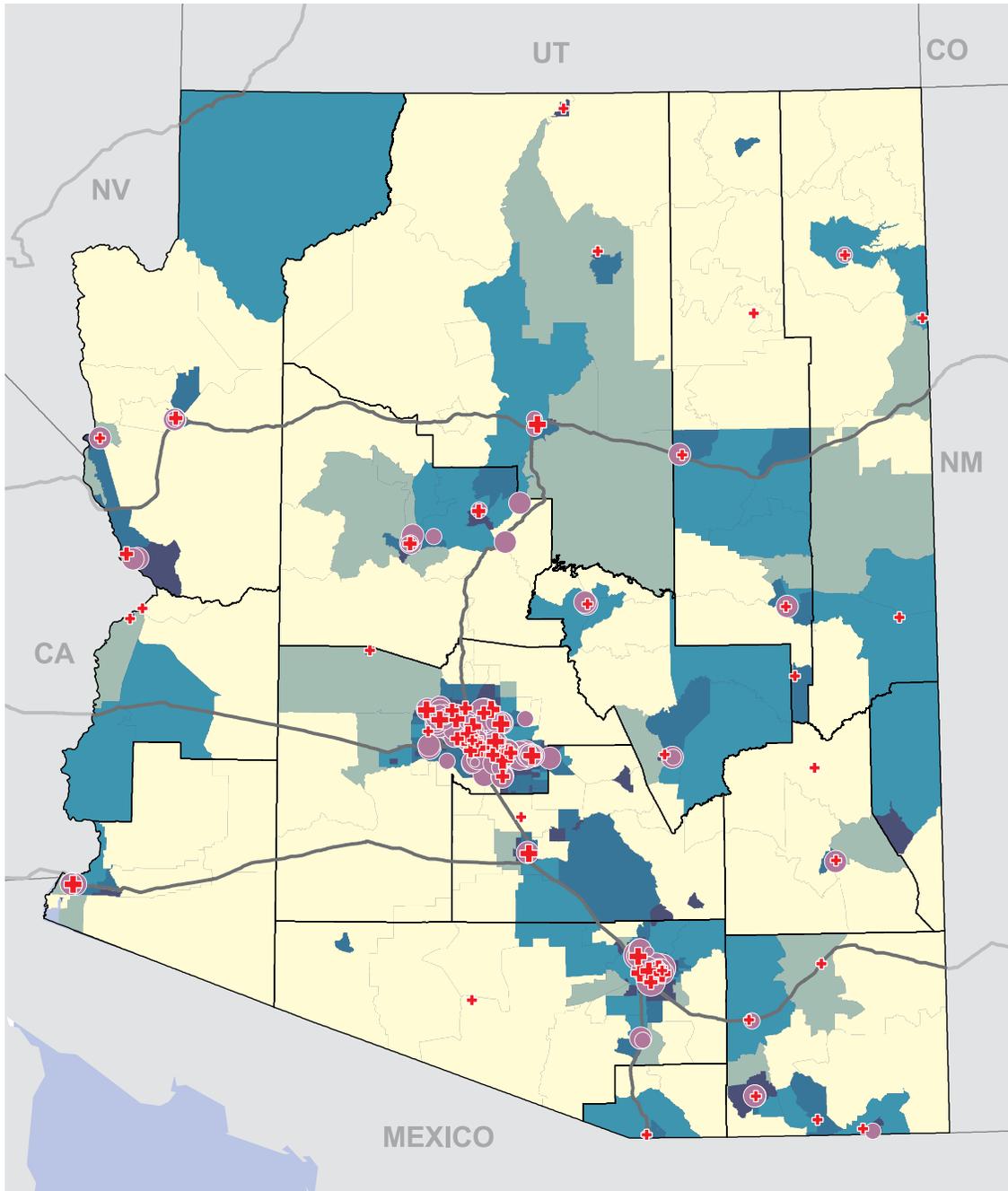
**Number of SNF/NF Beds**

- 200 or More
- 100 to 199
- 50 to 99
- Fewer than 50

**Number of Hospital Beds**

- 500 or More
- 200 to 499
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- Fewer than 100





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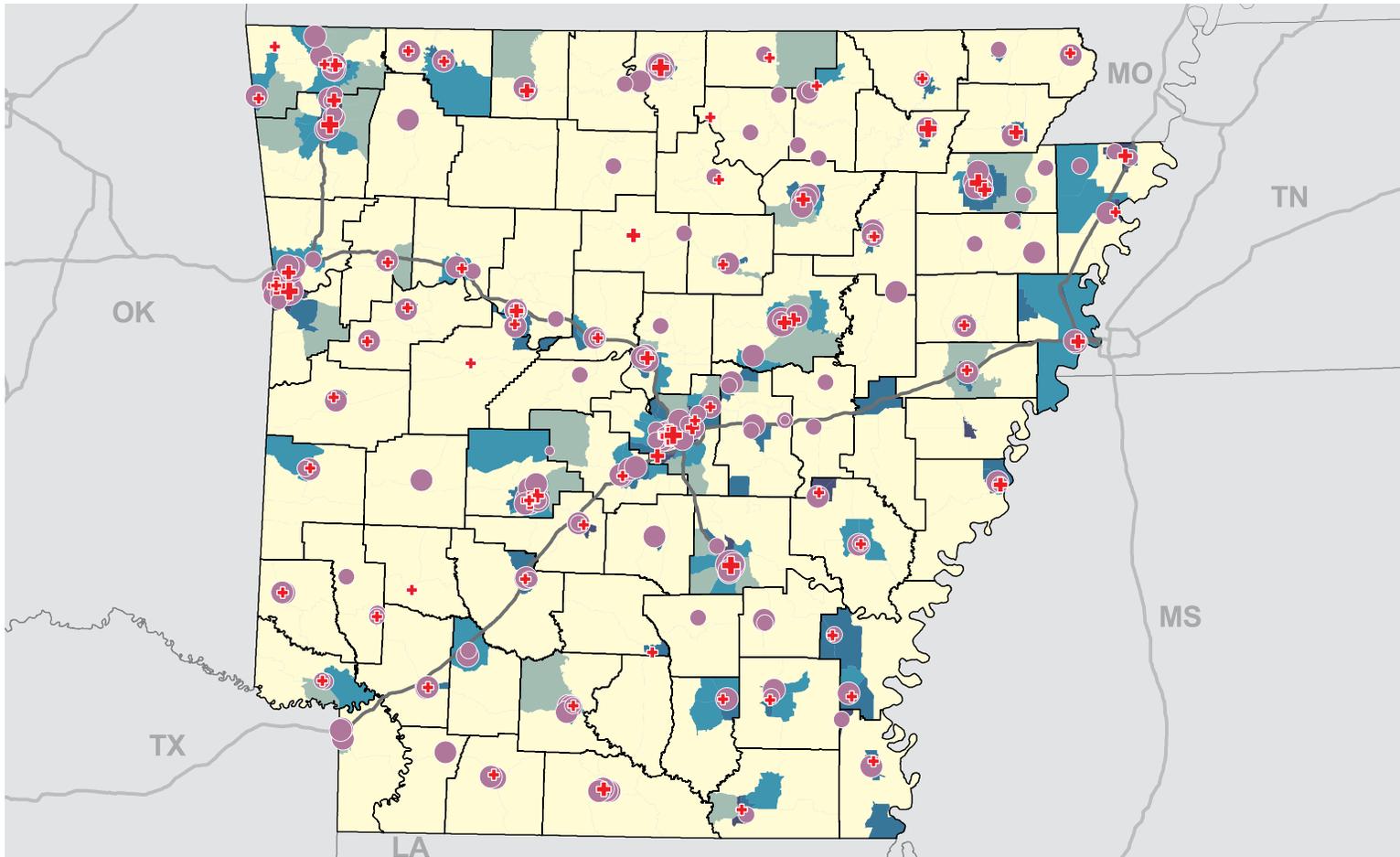
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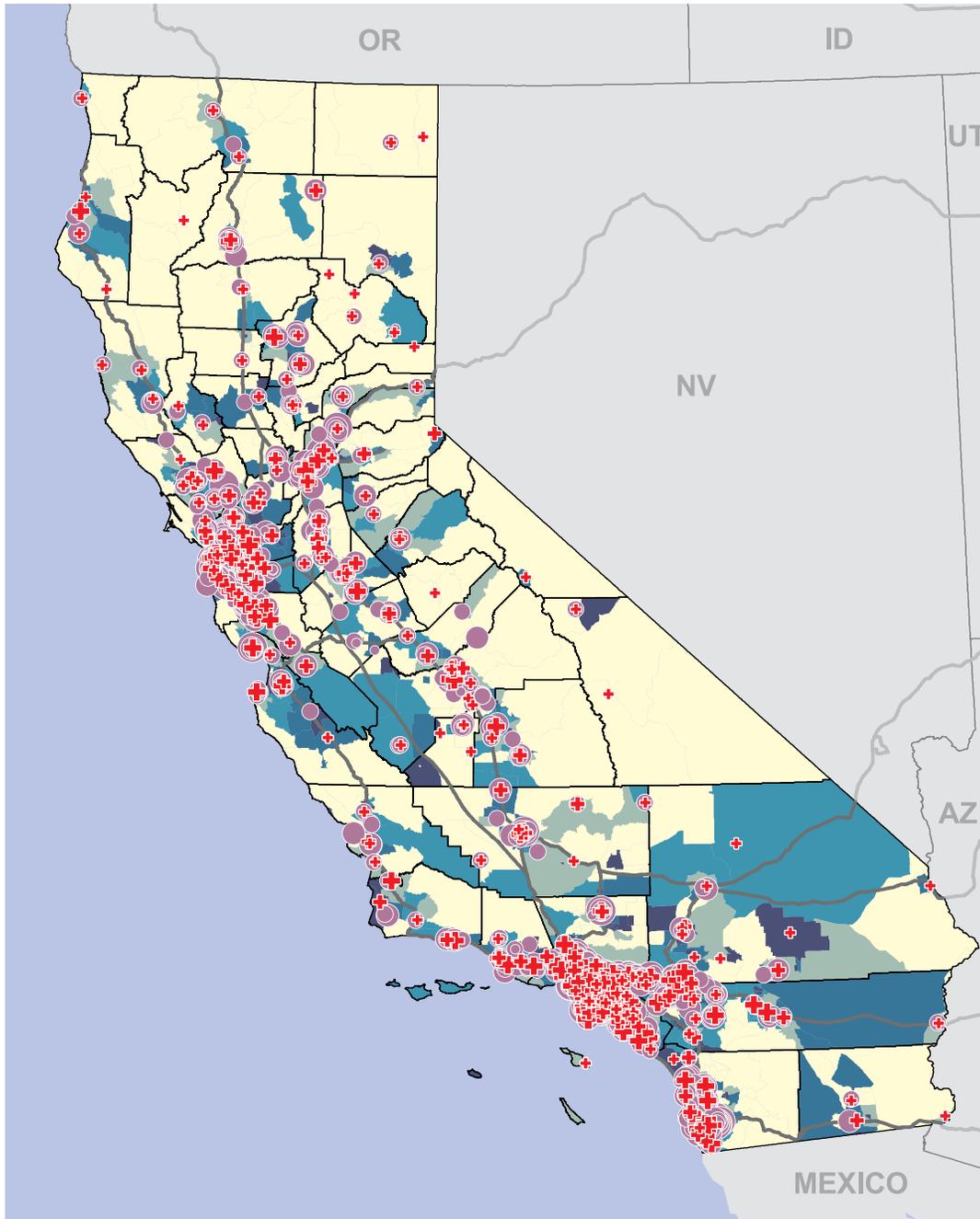
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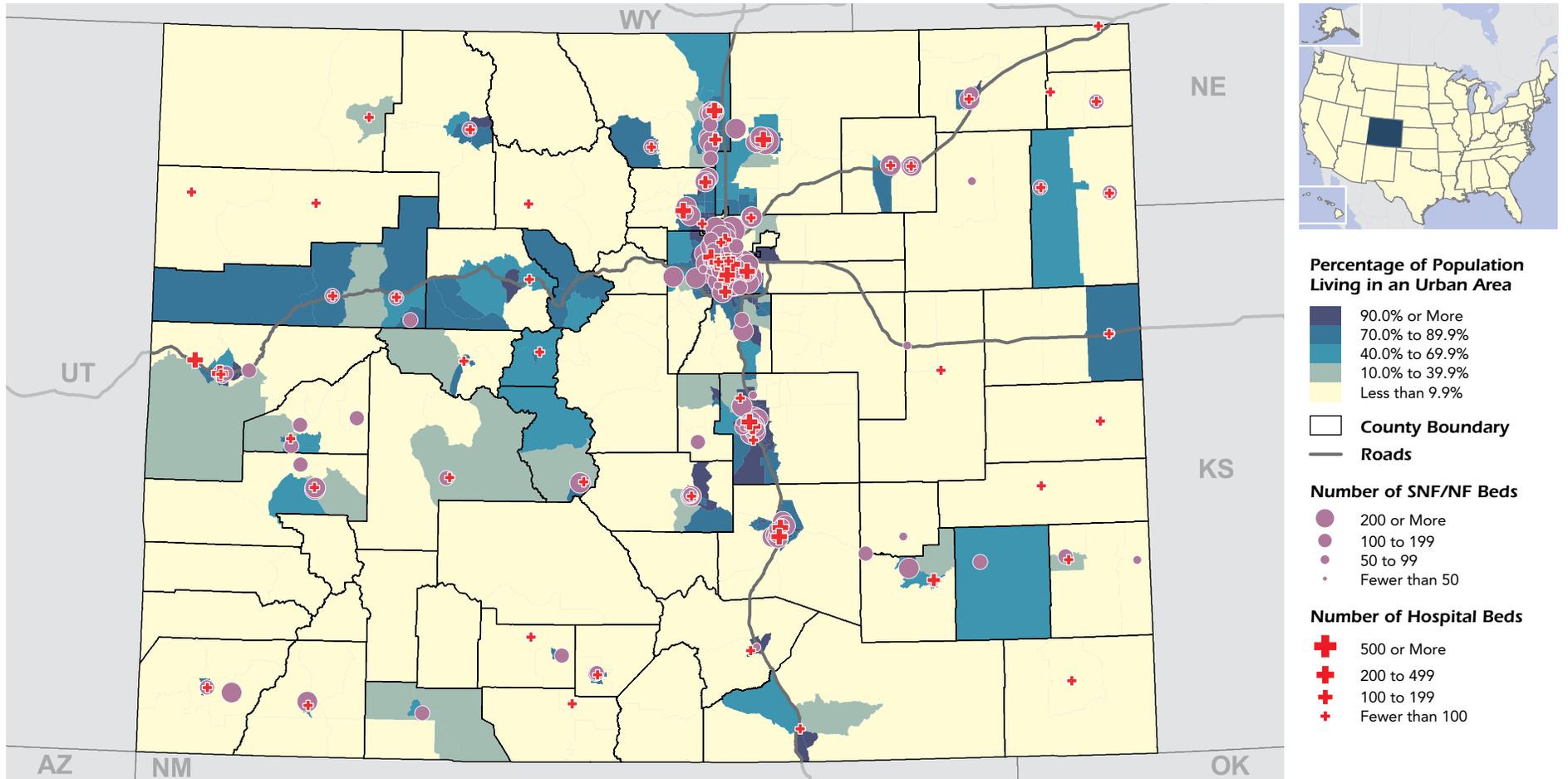
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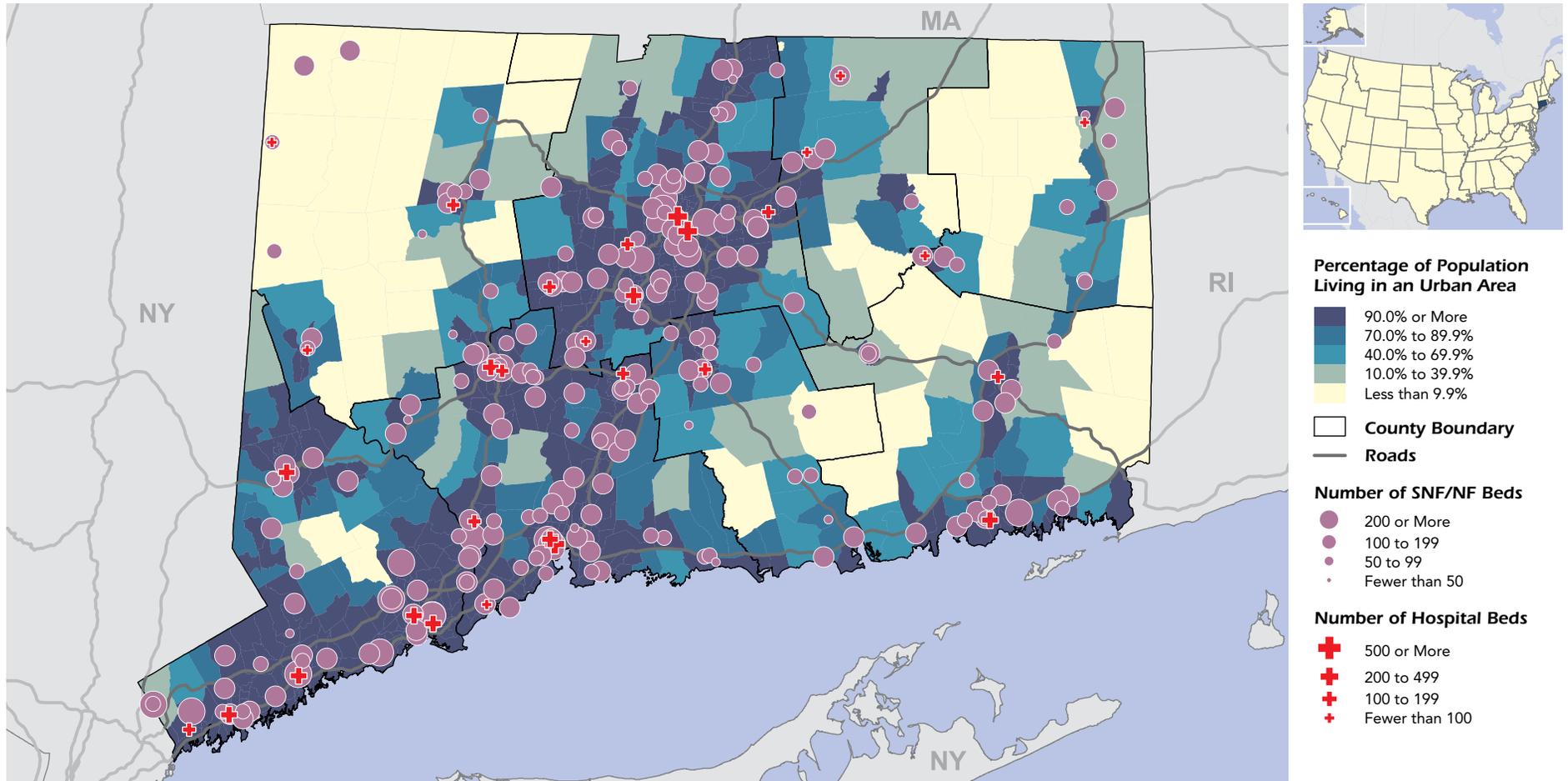
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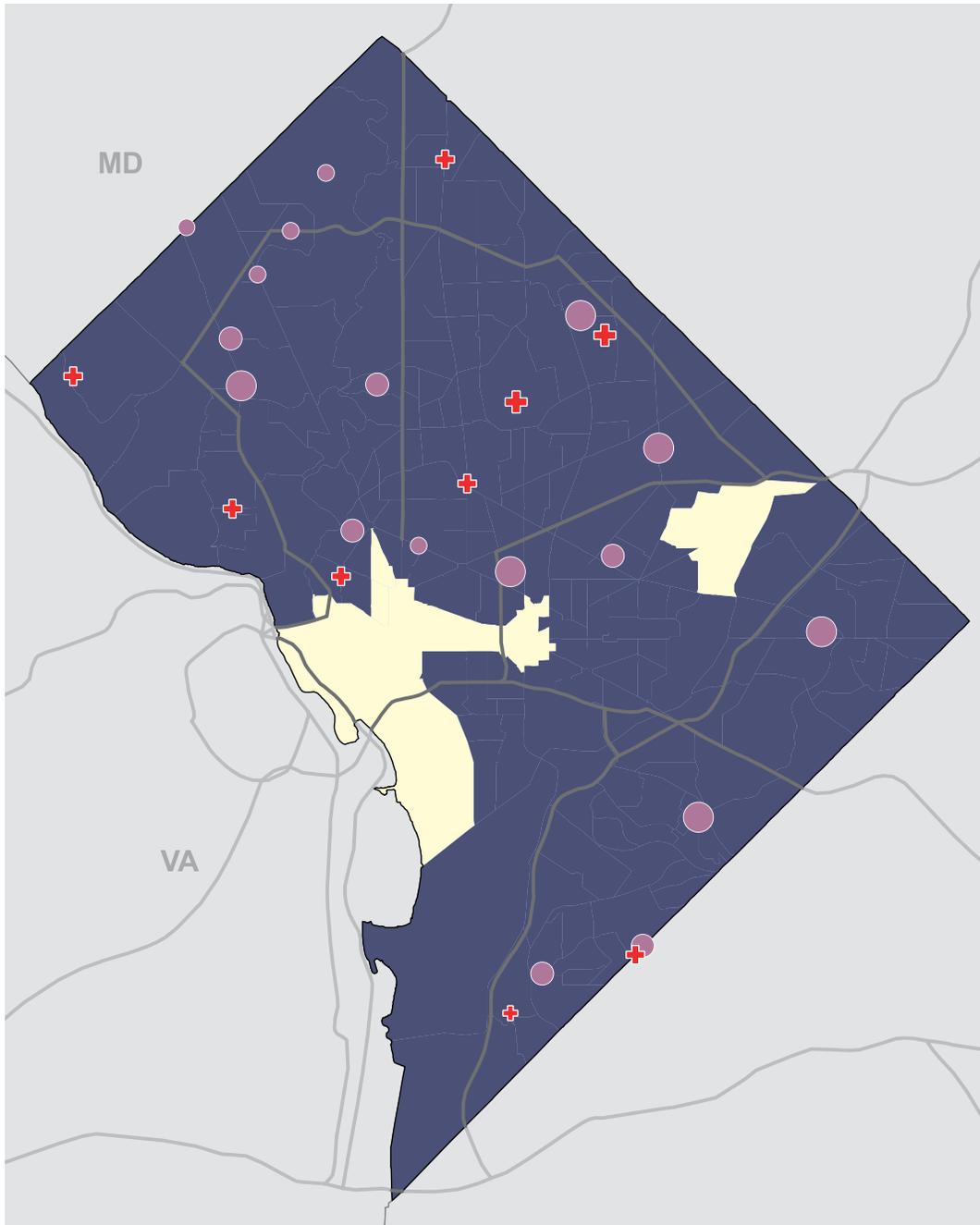
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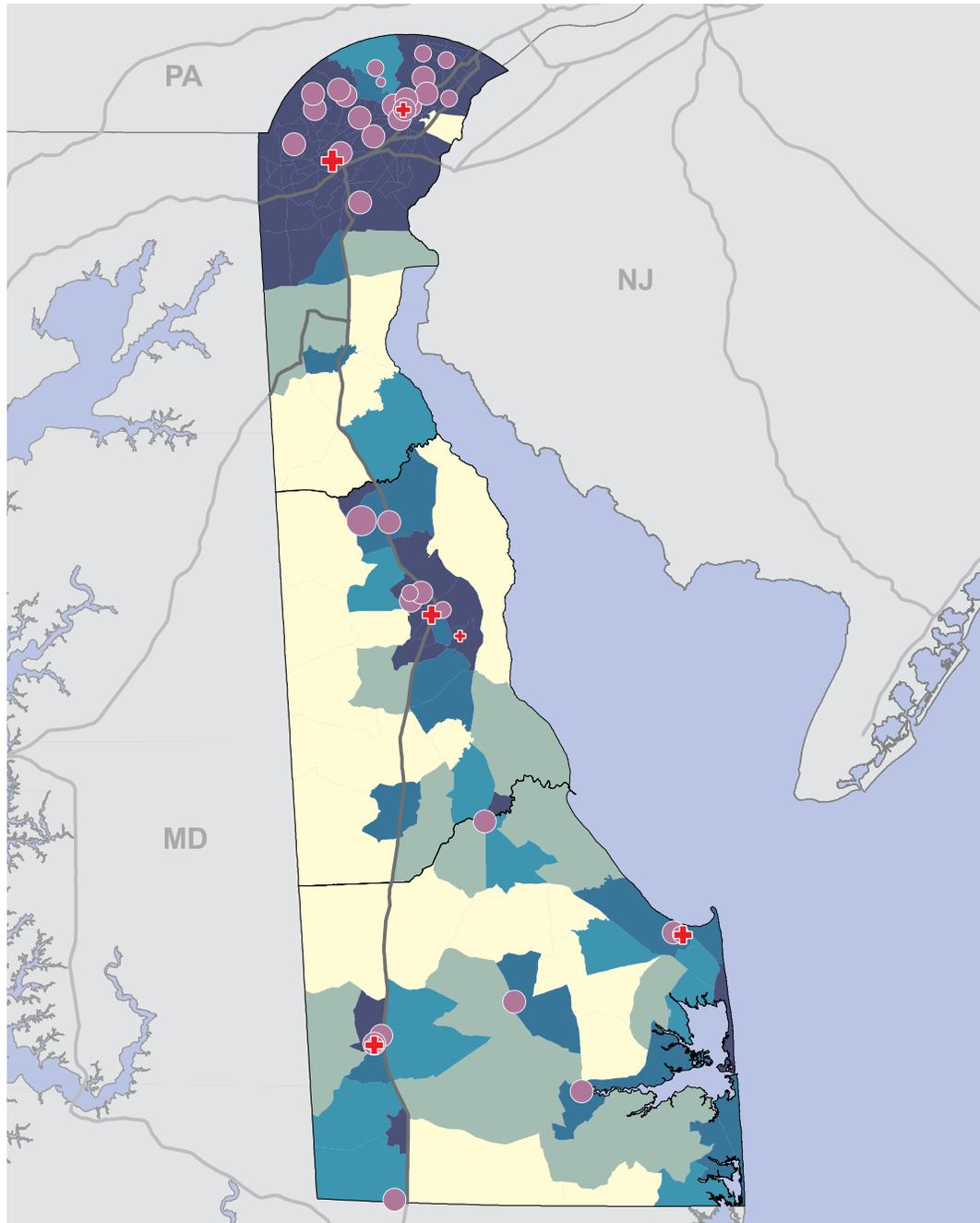
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